SHARP
SUPPLEMENTAL SERVICE MANUAL

S3907R21HCP//

LIGHT DUTY COMMERCIAL MICROWAVE OVEN

MODEL R-21JC

In the interest of user-safety the oven should be restored to its original condition and only parts identical to those specified should be used.

WARNING TO SERVICE PERSONNEL: Microwave ovens contain circuitry capable of producing very high voltage and current. Contact with the following parts may result in a severe, possibly fatal, electrical shock. (High Voltage Capacitor, High Voltage Power Transformer, Magnetron, High Voltage Rectifier Assembly, High Voltage Harness etc..)

This is a supplemental Service Manual for Model R-21JC. This model is quite similar to base model R-21HC. Use this supplemental manual together with the Base Model Service Manual (Reference No. is S7813R21HCP//) for complete operation, service information, etc..

TABLE OF CONTENTS

Page

PRECAUTIONS TO BE OBSERVED BEFORE AND DURING SERVICING TO AVOID POSSIBLE EXPOSURE TO EXCESSIVE MICROWAVE ENERGY ..... INSIDE FRONT COVER
BEFORE SERVICING ..... INSIDE FRONT COVER
WARNING TO SERVICE PERSONNEL 1
FOREWORD AND WARNING 2
PRODUCT SPECIFICATIONS 3
SCHEMATIC DIAGRAM 3
PARTS LIST 4
PACKING AND ACCESSORIES 9

SHARP CORPORATION

This document has been published to be used for after sales service only.
The contents are subject to change without notice.

PRECAUTIONS TO BE OBSERVED BEFORE AND DURING SERVICING TO AVOID POSSIBLE EXPOSURE TO EXCESSIVE MICROWAVE ENERGY

(a) Do not operate or allow the oven to be operated with the door open.
(b) Make the following safety checks on all ovens to be serviced before activating the magnetron or other microwave source, and make repairs as necessary: (1) interlock operation, (2) proper door closing, (3) seal and sealing surfaces (arcing, wear, and other damage), (4) damage to or loosening of hinges and latches, (5) evidence of dropping or abuse.
(c) Before turning on microwave power for any service test or inspection within the microwave generating compartments, check the magnetron, wave guide or transmission line, and cavity for proper alignment, integrity, and connections.
(d) Any defective or misadjusted components in the interlock, monitor, door seal, and microwave generation and transmission systems shall be repaired, replaced, or adjusted by procedures described in this manual before the oven is released to the owner.
(e) A microwave leakage check to verify compliance with the Federal Performance Standard should be performed on each oven prior to release to the owner.

BEFORE SERVICING

Before servicing an operative unit, perform a microwave emission check as per the Microwave Measurement Procedure outlined in this service manual.
If microwave emissions level is in excess of the specified limit, contact SHARP ELECTRONICS CORPORATION immediately @1-800-237-4277.

If the unit operates with the door open, service person should 1) tell the user not to operate the oven and 2) contact SHARP ELECTRONICS CORPORATION and The Food and Drug Administration's Center for Devices and Radiological Health immediately.

Service personnel should inform SHARP ELECTRONICS CORPORATION of any certified unit found with emissions in excess of 4mW/cm^2. The owner of the unit should be instructed not to use the unit until the oven has been brought into compliance.

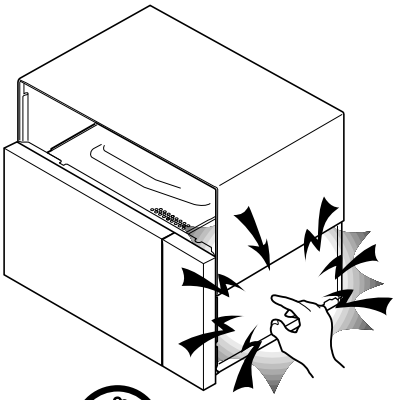
WARNING TO SERVICE PERSONNEL

Microwave ovens contain circuitry capable of producing very high voltage and current, contact with following parts may result in a severe, possibly fatal, electrical shock.

(Example)

High Voltage Capacitor, High Voltage Power Transformer, Magnetron, High Voltage Rectifier Assembly, High Voltage Harness etc..

Read the Service Manual carefully and follow all instructions.



Don't Touch !
Danger High Voltage

Before Servicing

1. Disconnect the power supply cord , and then remove outer case.
2. Open the door and block it open.
3. Discharge high voltage capacitor.

WARNING: RISK OF ELECTRIC SHOCK. DISCHARGE THE HIGH-VOLTAGE CAPACITOR BEFORE SERVICING.

The high-voltage capacitor remains charged about 60 seconds after the oven has been switched off. Wait for 60 seconds and then short-circuit the connection of the high-voltage capacitor (that is the connecting lead of the high-voltage rectifier) against the chassis with the use of an insulated screwdriver.

Whenever troubleshooting is performed the power supply must be disconnected. It may in, some cases, be necessary to connect the power supply after the outer case has been removed, in this event,

1. Disconnect the power supply cord, and then remove outer case.
2. Open the door and block it open.
3. Discharge high voltage capacitor.
4. Disconnect the leads to the primary of the power transformer.
5. Ensure that the leads remain isolated from other components and oven chassis by using insulation tape.
6. After that procedure, reconnect the power supply cord.

When the testing is completed,

1. Disconnect the power supply cord, and then remove outer case.
2. Open the door and block it open.
3. Discharge high voltage capacitor.
4. Reconnect the leads to the primary of the power transformer.
5. Reinstall the outer case (cabinet).
6. Reconnect the power supply cord after the outer case is installed.
7. Run the oven and check all functions.

After repairing

1. Reconnect all leads removed from components during testing.
2. Reinstall the outer case (cabinet).
3. Reconnect the power supply cord after the outer case is installed.
4. Run the oven and check all functions.

Microwave ovens should not be run empty. To test for the presence of microwave energy within a cavity, place a cup of cold water on the oven turntable, close the door and set the power to HIGH and set the microwave timer for two (2) minutes. When the two minutes has elapsed (timer at zero) carefully check that the water is now hot. If the water remains cold carry out **Before Servicing** procedure and re-examine the connections to the component being tested.

When all service work is completed and the oven is fully assembled, the microwave power output should be checked and a microwave leakage test should be carried out.

SERVICE MANUAL

SHARP

LIGHT DUTY
COMMERCIAL
MICROWAVE OVEN

R-21JC

FOREWORD

This Manual has been prepared to provide Sharp Electronics Corp. Service Personnel with Operation and Service Information for the SHARP MICROWAVE OVEN, R-21JC.

The model R-21JC is quite similar to base model R-21HC (Refer No. is S7813R21HCP//).

It is recommended that service personnel carefully study the entire text of this manual and the base model's manual so that they will be qualified to render satisfactory customer service.

Check the interlock switches and the door seal carefully. Special attention should be given to avoid electrical shock and microwave radiation hazard.

WARNING

Never operate the oven until the following points are ensured.
(A) The door is tightly closed.
(B) The door brackets and hinges are not defective.
(C) The door packing is not damaged.
(D) The door is not deformed or warped.
(E) There is no other visible damage with the oven.

Servicing and repair work must be carried out only by trained service personnel.

DANGER

Certain initial parts are intentionally not grounded and present a risk of electrical shock only during servicing.
Service personnel - Do not contact the following parts while the appliance is energized;
High Voltage Capacitor, Power Transformer, Magnetron, High Voltage Rectifier Assembly, High Voltage Harness;
If provided, Vent Hood, Fan assembly, Cooling Fan Motor.

All the parts marked "*" on parts list are used at voltages more than 250V.

Removal of the outer wrap gives access to voltage above 250V.

All the parts marked "Δ" on parts list may cause undue microwave exposure, by themselves, or when they are damaged, loosened or removed.

SHARP ELECTRONICS CORPORATION

SHARP PLAZA, MAHWAH,
NEW JERSEY 07430-2135

SPECIFICATION

ITEM	DESCRIPTION
Power Requirements	120 Volts 14 Amperes 60 Hertz / Single phase, 3 wire grounded
Power Output	1000 watts (IEC 705 Test Procedure) Operating frequency of 2450MHz
Case Dimensions	Width 20-1/2" (520mm) Height 12-1/8" (309mm) Depth 16" (406mm)
Cooking Cavity Dimensions (1.0 Cubic Feet)	Width 13-7/8" (353mm) Height 8-1/8" (207mm) Depth 14-5/8" (370mm)
Control Complement	Light Up Dial (6 minutes) No cooking control
Oven Cavity Light	Yes
Safety Standard	UL Listed FCC Authorized DHHS Rules, CFR, Title 21, Chapter 1, Subchapter J, NSF Certified

SCHEMATIC
NOTE: CONDITION OF OVEN
1. LIGHT UP DIAL OFF.
2. DOOR CLOSED.

NOTE: ★ Indicates components with potential above 250 V.

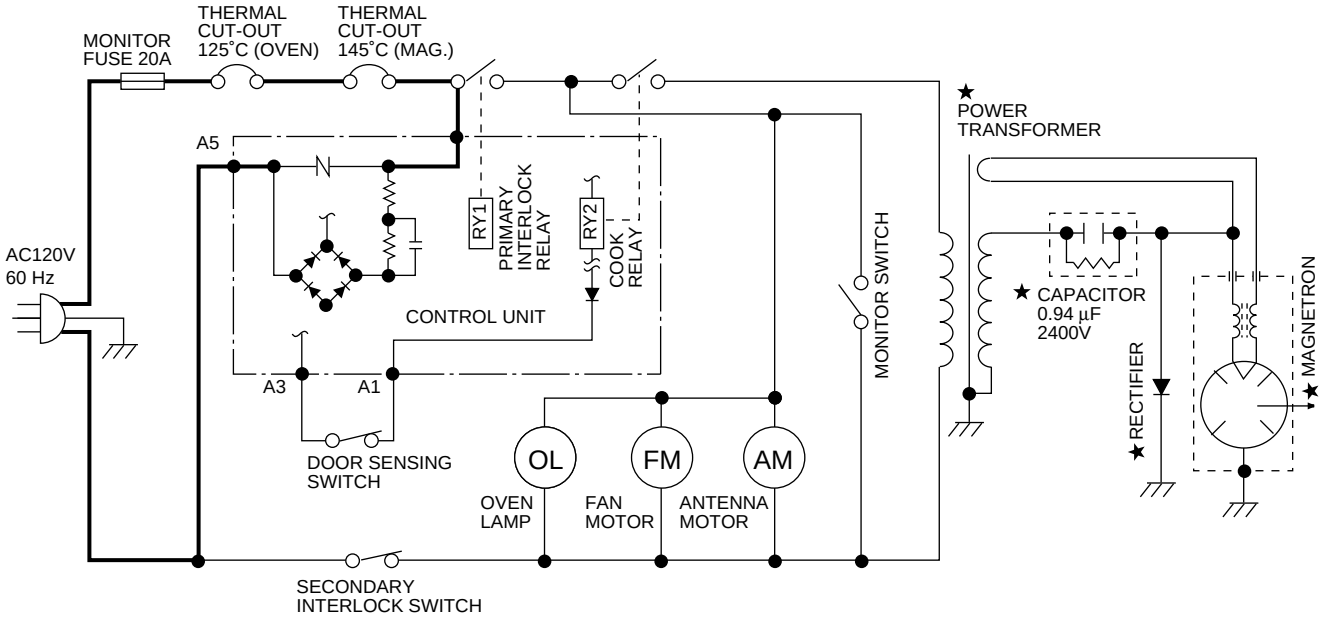


Figure O-1 Oven Schematic-OFF Condition

PARTS LIST

Note: The parts marked "Δ" may cause undue microwave exposure.
The parts marked "*" are used in voltage more than 250V.

	REF. NO.	PART NO.	DESCRIPTION	Q'TY	CODE
			ELECTRIC PARTS		
	1- 1	FFS-BA015WRK0	Monitor fuse and monitor switch assembly	1	AK
	1- 2	QSW-MA051WRE0	Door sensing switch	1	AF
	1- 3	QSW-MA135WRE0	Secondary interlock switch	1	AH
	1- 4	FACCDA078WRE0	Power supply cord	1	AV
*	1- 5	FH-DZA084WRK0	High voltage rectifier assembly	1	AV
*	1- 6	RC-QZA242WRE0	High voltage capacitor	1	AV
*	1- 7	RMOTEA376WRE0	Fan motor	1	AU
	1- 8	QFSHDA009WRE0	Fuse holder	1	AG
	1- 9	QSOCLA021WRE0	Oven lamp socket	1	AG
	1-10	RLMPTA072WRE0	Oven lamp	1	AY
	1-11	RMOTDA233WRE0	Antenna motor	1	AQ
	1-12	RTHM-A080WRE0	Thermal cut-out 145 deg. (MAG)	1	AP
	1-13	RTHM-A096WRE0	Thermal cut-out 125 deg. (OVEN)	1	AK
*	1-14	RTRN-A570WRE0	Power transformer	1	BM
Δ*	1-15	RV-MZA197WRE0	Magnetron	1	BN
			CABINET PARTS		
	2- 1	GCABUA674WRP0	Outer case cabinet	1	AX
	2- 2	GDAI-A311WRW0	Base plate	1	AS
	2- 3	GCOVHA406WRW0	Base plate cover	1	AQ
	2- 4	GLEGPA074WRE0	Foot	2	AC
	2- 5	GLEGPA076WRF0	Leg	1	AF
			CONTROL PANEL PARTS		
	3- 1	CPWBFA804WRK0	Control unit assembly	1	BH
	3- 1A	QCNCMA430DRE0	3-pin connector (CN-A)	1	AG
	3- 1B	PTUBBA005WRE0	Insurating tube	1	AC
	C2	VCF2B62CA225K	Capacitor 2.2 uF 160VAC	1	AF
	C3	VCEAB31VW108M	Capacitor 1000 uF 35V	1	AF
	C4	RC-KZA087DRE0	Capacitor 0.1 uF 50V	1	AA
	C5	VCEAB31CW476M	Capacitor 47 uF 16V	1	AA
	C6	RC-KZA087DRE0	Capacitor 0.1 uF 50V	1	AA
	C7	VCKYD11CY103N	Capacitor 0.01 uF 16V	1	AA
	C20	VCEAB31HW104M	Capacitor 0.1 uF 50V	1	AM
	C21	VCEAB31VW106M	Capacitor 10 uF 35V	1	AA
	C30	VCKYD11CY103N	Capacitor 0.01 uF 16V	1	AA
	C60-61	VCKYD11CY103N	Capacitor 0.01 uF 16V	2	AA
	CF1	RCRS-A012DRE0	Ceramic resonator (CST4.00MGW)	1	AD
	D1-4	VHD1N4005E61B	Diode (1N4005E)	4	AE
	D20-22	VHD1SS270A/-1	Diode (1SS270A)	3	AA
	D30	VHD1SS270A/-1	Diode (1SS270A)	1	AA
	D70-85	VHD1SS270A/-1	Diode (1SS270A)	16	AA
	FUSE1	QFS-AA005DRE0	IC PROTECTOR	1	AE
	I-1	RH-IZA902DRE0	LSI	1	AK
	LD1-20	VHPLTL1CHE/-3	Light emitting diode (LED)	20	AD
	Q1	VS2SC1740S/-3	Transistor (2SC1740S)	1	AB
	Q2	VS2SA1267Y/-3	Transistor (2SA1267Y)	1	AA
	Q20	VSDTC143ES/-3	Transistor (DTC143ES)	1	AB
	Q21	VSDTA143ES/1B	Transistor (DTA143ESXHZ)	1	AA
	Q22	VSDTC143ES/-3	Transistor (DTC143ES)	1	AB
	Q40	VSDTC143ES/-3	Transistor (DTC143ES)	1	AB
	Q70-73	VSDTA143ES/-3	Transistor (DTA143ES)	4	AB
	R1-2	VRS-B13AA301J	Resistor 300 ohm 1W	2	AB
	R3-4	VRS-B13AA511J	Resistor 510 ohm 1W	2	AA
	R5	VRD-B12EF102J	Resistor 1.0k ohm 1/4W	1	AA
	R6	VRD-B12EF472J	Resistor 4.7k ohm 1/4W	1	AA
	R10	VRD-B12HF104J	Resistor 100k ohm 1/2W	1	AB
	R11	VRS-L63DA101J	Resistor 100 ohm 2W	1	AD
	R20-21	VRD-B12EF472J	Resistor 4.7k ohm 1/4W	2	AA
	R30	VRD-B12EF472J	Resistor 4.7k ohm 1/4W	1	AA
	R31	VRD-B12EF473J	Resistor 47k ohm 1/4W	1	AA
	R40	VRD-B12EF472J	Resistor 4.7k ohm 1/4W	1	AA
	R41	VRD-B12EF152J	Resistor 1.5k ohm 1/4W	1	AA
	R42	VRD-B12EF332J	Resistor 3.3k ohm 1/4W	1	AA
	R60-61	VRD-B12EF104J	Resistor 100k ohm 1/4W	2	AA
	R62-63	VRD-B12EF472J	Resistor 4.7k ohm 1/4W	2	AA
	R70	VRD-B12EF431J	Resistor 430 ohm 1/4W	1	AA

REF. NO.	PART NO.	DESCRIPTION	Q'TY	CODE
R71	VRD-B12EF331J	Resistor 330 ohm 1/4W	1	AA
R72	VRD-B12EF241J	Resistor 240 ohm 1/4W	1	AA
R73	VRD-B12EF151J	Resistor 150 ohm 1/4W	1	AA
R74	VRD-B12EF101J	Resistor 100 ohm 1/4W	1	AA
RY1	RRLY-A110DRE0	Relay (OMIF-S-124LM)	1	AL
RY2	RRLY-A098DRE0	Relay (DU24D1-1P(M))	1	AL
SP1	RALM-A014DRE0	Buzzer (PKM22EPT)	1	AG
SW1	RVR-BA018WRE0	Rotary encoder	1	AK
VRS1	RH-VZA040DRE0	Varistor (10G471K)	1	AF
ZD1-3	VHEHZ11A3//-1	Zener diode (HZ11A3)	3	AA
ZD4-5	VHEHZ6C3///-1	Zener diode (HZ6C3)	2	AA
ZD6	VHEHZ4C3///-1	Zener diode (HZ4C3)	1	AA
3- 2	FPNLCB434WRK0	Panel sub assembly	1	BA
3- 2-1	HPNLTA137WRE0	Timer sheet	1	AH
3- 2-2	GCOVAA260WRP0	C/P case	1	BA
3- 2-3	PRNGFA001WRF0	Ring	1	AD
3- 3	TCAUAA076WRR0	User caution label	1	AB
3- 4	JKNBKA606WRM0	Timer knob	1	AL
3- 5	XEPSD30P08XS0	Screw; 3mm X 8mm	5	AA

OVEN PARTS

	4- 1	FGLSPA062WRE0	Ceramic shelf	1	BL
Δ	4- 2	**********	Oven cavity (Not a replaceable part)	1	—
	4- 3	MLEVPA227WRF0	Latch switch lever A	1	AF
	4- 4	MLEVPA228WRF0	Latch switch lever B	1	AF
	4- 5	MLEVPA229WRF0	Latch switch lever C	1	AF
	4- 6	MSPRCA108WRE0	Latch lever spring	3	AC
	4- 7	MSPRTA191WRE0	Switch lever B spring	1	AC
Δ	4- 8	PHOK-A107WRF0	Latch hook	1	AL
	4- 9	FDUC-A341WRY0	Steam duct sub assembly	1	BL
	4-10	PSKR-A351WRP0	Steam guide	1	AY
	4-11	LBNDKA136WRP0	HV capacitor holder	1	AQ
	4-12	NFANJA029WRE0	Fan blade	1	AK
	4-13	PDUC-A697WRF0	Fan duct	1	AM
	4-14	FPLT-A007WRY0	Stirrer antenna assembly	1	BB
	4-15	PCUSGA504WRP0	Insertion cushion	2	AB
	4-16	PSKR-A348WRW0	Insertion plate A	1	AN
	4-17	GCOVHA404WRE0	VCP cap	2	AG
	4-18	LANGFA187WRP0	Chassis support	1	AL
	4-19	NSFTPA033WRF0	Antenna motor shaft	1	AK
	4-20	PCLICA032WRE0	Hand clip 4	5	AD
	4-21	PCLICA033WRE0	Hand clip 5	4	AD
	4-22	PCOVPA344WRF0	Side splash cover	1	AF
	4-23	PCOVPA345WRF0	Back splash cover	1	AF
	4-24	PCUSGA249WRP0	Cushion	3	AA
	4-25	PCUSUA511WRP0	Cushion	1	AC
	4-26	PCUSUA194WRP0	Cushion	2	AC
	4-27	PCUSUA514WRP0	Cushion	1	AB
	4-28	PDUC-A722WRF0	Air intake duct	1	AF
	4-29	PFILWA060WRP0	Lamp filter	1	AD
	4-30	PSHEPA644WRE0	Insertion sheet	1	AD
	4-31	PSKR-A347WRW0	Insertion plate B	1	AL
	4-32	PSKR-A349WRP0	Steam duct barrier	1	AF
	4-33	PSKR-A359WRW0	Air guide	1	AM
	4-34	PSPA-A112WRE0	Mica washer	1	AC
	4-35	PCUSGA378WRP0	Cushion	1	AL
	4-36	PCUSUA507WRP0	Cushion	1	AC
	4-37	PCUSUA517WRP0	Cushion	1	AE
	4-38	PCUSUA518WRP0	Cushion	1	AC
	4-39	PSHEPA673WRE0	S/ film	1	AD
	4-40	PSHEPA674WRE0	Cover	1	AL
	4-41	PPACGA171WRE0	Cushion	1	AK

DOOR PARTS

	5- 1	FDORFA322WRT0	Door panel assembly	1	AZ
Δ	5- 2	PSHEPA649WRE0	Sealer film	1	AB
	5- 3	FANGKA206WRY0	Latch angle assembly	1	AW
Δ	5- 4	FCOV-A002WRK0	Door case assembly	1	BQ
	5-4-1	LSTPPA180WRF0	Glass stopper R	1	AK
	5-4-2	LSTPPA182WRF0	Glass stopper U	1	AN
	5-4-3	PGLSPA516WRE0	Front door glass	1	AU
	5- 5	GWAKPA580WRM0	Door handle	1	AQ
	5- 6	JHNDMA040WRW0	Handle lever	1	AN

	REF. NO.	PART NO.	DESCRIPTION	Q'TY	CODE
	5- 7	LANGKA874WRW0	Latch lever	1	AR
Δ	5- 8	LSTPPA181WRF0	Latch head	2	AL
Δ	5- 9	MSPRTA190WRE0	Latch spring	1	AD
	5-10	PCUSUA506WRP0	Cushion	1	AC
	5-11	XCPSD40P06000	Screw : 4mm x 6mm	1	AA
	5-12	PSHEPA686WRE0	Panel sheet	2	AK
	5-13	PSHEPA687WRE0	Panel sheet	1	AK
	5-14	PCUSGA514WRP0	Cushion	1	AK
	5-15	PCUSUA505WRP0	Cushion	1	AC
	5-16	XCPSD40P08000	Screw : 4mm x 8mm	10	AA
	5-17	GCOVHA407WRF0	Choke cover	1	AM
	5-18	HBDGCA088WRE0	Door badge	1	AG
	5-19	XEPSD40P25K00	Screw : 4mm x 25mm	2	AB
	5-20	PCUSUA508WRP0	Cushion	1	AC

MISCELLANEOUS

6- 1	TINSEA802WRR0	Instruction book	1	AF
6- 2	FW-VZB684WRE0	Main wire harness	1	BB
6- 3	TCAUAA166WRR0	DHHS caution label	1	AB
6- 4	TCAUAA241WRR0	Monitor caution	1	AE
6- 5	TCAUAA243WRR0	Earth caution	1	AC
6- 6	TCAUAA245WRR0	Cover caution	1	AC
6- 7	TMAPCA759WRR0	Schematic diagram	1	AE
6- 8	LHLDWA013WRE0	Purse lock LL	1	AC
6- 9	TCAUAA249WRR0	Caution label	1	AE

SCREWS,NUTS AND WASHERS

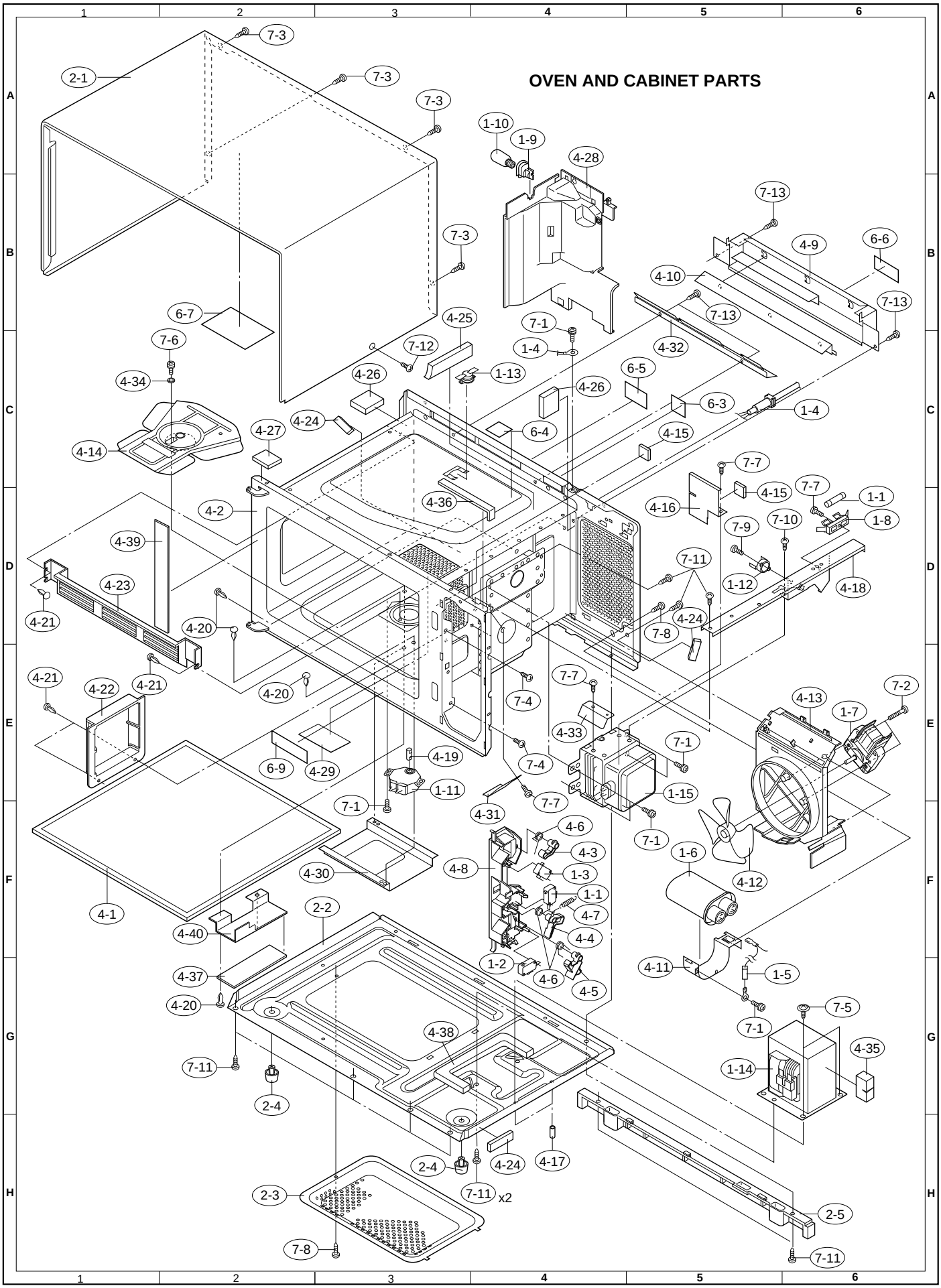
7- 1	XHPSD40P08K00	Screw : 4mm x 8mm	7	AA
7- 2	XEPSD40P25000	Screw : 4mm x 25mm	2	AA
7- 3	LX-CZA038WRE0	Special screw	4	AA
7- 4	LX-CZA052WRE0	Special screw	2	AA
7- 5	LX-EZA042WRE0	Special screw	2	AB
7- 6	XBPWW40P04000	Screw : 4mm x 4mm	1	AB
7- 7	XFPSD40P08000	Screw : 4mm x 8mm	4	AA
7- 8	XFTSD40P08000	Screw : 4mm x 8mm	2	AA
7- 9	XHPSD30P08000	Screw : 3mm x 8mm	1	AA
7-10	XHTSD40P08RV0	Screw : 4mm x 8mm	1	AA
7-11	XOTSD40P12000	Screw : 4mm x 12mm	12	AA
7-12	XOTSF40P08000	Screw : 4mm x 8mm	1	AA
7-13	XOTWW40P10000	Screw : 4mm x 10mm	4	AA

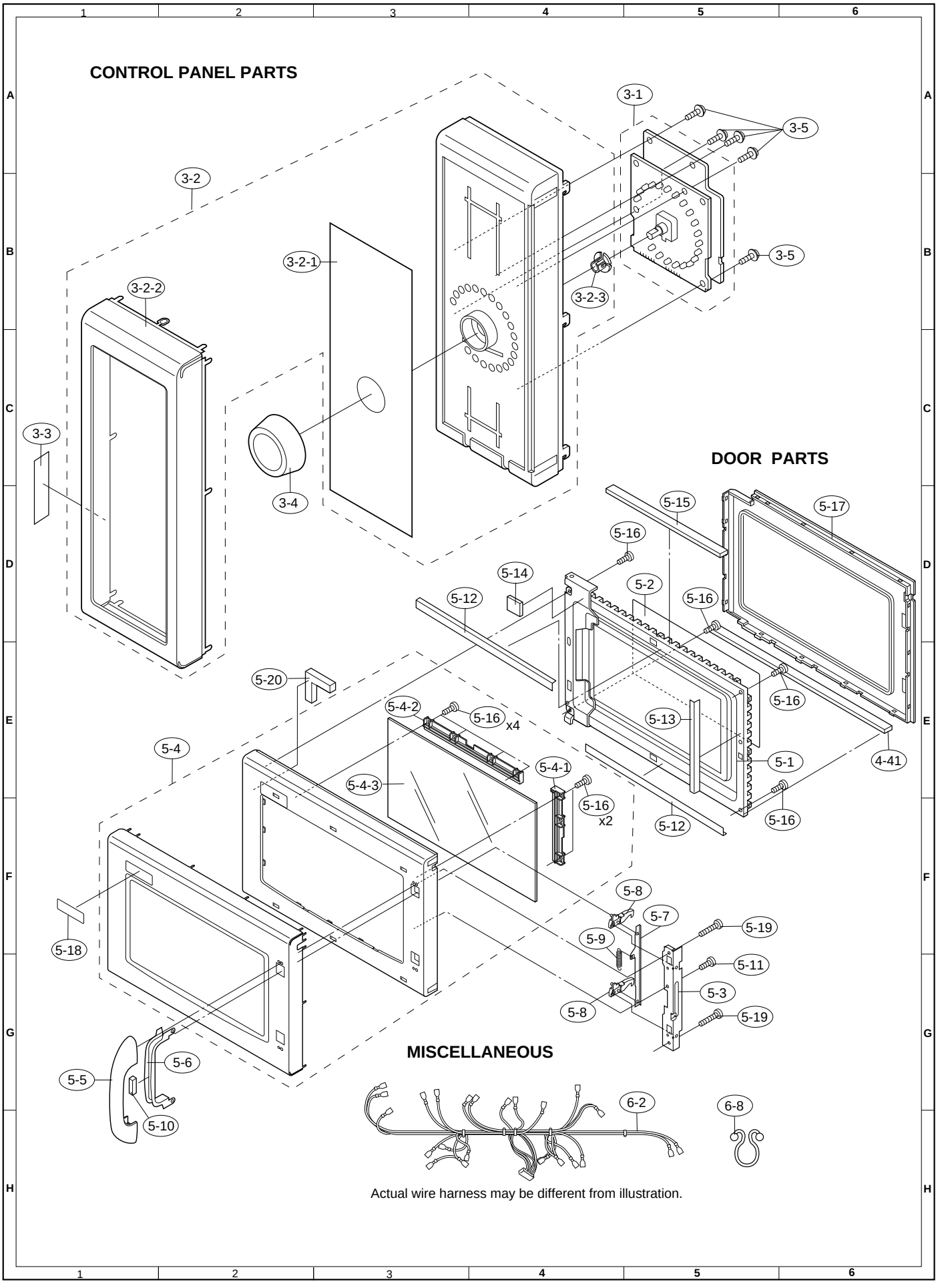
HOW TO ORDER REPLACEMENT PARTS

To have your order filled promptly and correctly, please furnish the following information.

1. MODEL NUMBER 2. REF. NO. 3. PART NO. 4. DESCRIPTION

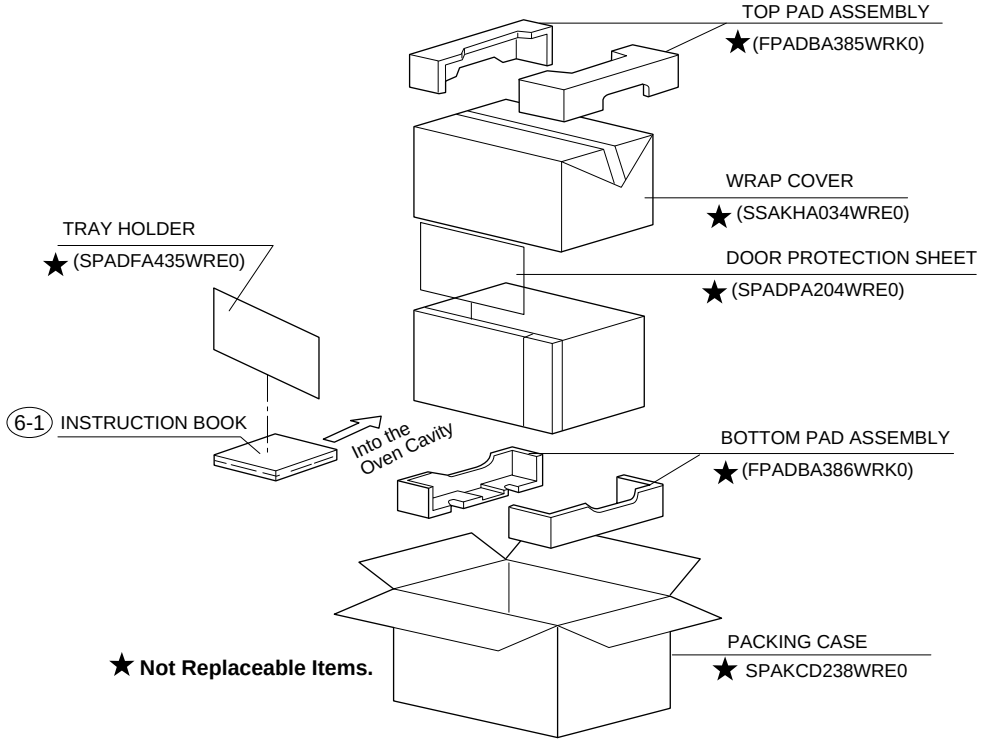
Order Parts from the authorized SHARP parts Distributor for your area.
Defective parts requiring return should be returned as indicated in the Service Policy.


OVEN AND CABINET PARTS
7-3
2-1
7-3
7-3
1-10
1-9
4-28
7-13
4-9
6-6
4-10
7-13
7-13
4-32
7-3
6-7
4-25
7-1
1-4
7-6
7-12
4-34
4-26
1-13
4-26
6-5
6-3
1-4
4-24
6-4
4-15
4-27
4-14
7-7
4-15
7-7
1-1
4-16
1-8
4-36
4-2
7-9
7-10
4-39
7-11
1-12
4-18
4-23
4-24
4-21
4-20
7-8
4-21
4-22
4-21
4-20
7-4
7-7
4-13
1-7
7-2
4-33
6-9
4-29
4-19
7-4
7-1
1-11
7-1
7-7
1-15
4-31
7-1
4-6
1-6
4-3
4-8
4-12
1-3
4-30
1-1
4-7
4-1
2-2
4-4
4-40
1-2
4-6
4-11
1-5
4-37
4-5
7-5
4-20
7-1
4-38
4-35
7-11
1-14
2-4
2-4
4-24
4-17
2-3
7-11 x2
2-5
7-8
7-11



Actual wire harness may be different from illustration.

PACKING AND ACCESSORIES



SHARP

COPYRIGHT © 1999 BY SHARP CORPORATION

ALL RIGHTS RESERVED.

No part of this publication may be reproduced, stored in retrieval systems, or transmitted in any form or by any means, electronic, mechanical, photocopying, recording, or otherwise, without prior written permission of the publisher.

'99 SHARP CORP. (1S2.530E) Printed in U.S.A